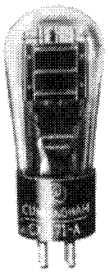
Cunningham RADIO TUBES



CX-371-A

POWER AMPLIFIER

The '71-A is a power amplifier tube of low output impedance for use in the output stage of audio-frequency amplifiers.

CHARACTERISTICS

FILAMENT VOLTAGE (D. C.)			5.0	Volts
FILAMENT CURRENT			0.25	Ampere
PLATE VOLTAGE	90	135	180 *max.*	Volts
GRID VOLTAGE*	−16.5	−27	−40.5	Volts
PLATE CURRENT	12	17.5	20	Milliamperes
PLATE RESISTANCE	2250	1960	1850	Ohms
AMPLIFICATION FACTOR	3	3	3	
MUTUAL CONDUCTANCE	1330	1520	1620	Micromhos
LOAD RESISTANCE	3200	3500	5350	Ohms
UNDISTORTED POWER OUTPUT	125	370	700	Milliwatts
GRID-PLATE CAPACITANCE		7.4		µµf.
GRID-FILAMENT CAPACITANCE		3.7		µµf.
PLATE-FILAMENT CAPACITANCE		2.1		µµf.
MAXIMUM OVERALL LENGTH				$4\frac{11}{16}$"
MAXIMUM DIAMETER				$1\frac{13}{16}$"
BULB (See page 42, Fig. 8)				S-14
BASE				Medium 4-Pin

* For operation on a-c filament supply, increase grid bias voltage 2.5 volts.

INSTALLATION

The **base** pins of this tube fit the standard four-contact socket. The socket should be installed so that the tube will operate in a vertical position. For socket connections, see page 39, Fig. 1.

The coated **filament** of the '71-A may be operated from a storage battery or from the a-c line through a step-down transformer. For operation of this tube from a storage battery, a fixed or variable resistor of suitable value is required to reduce the battery voltage to 5.0 volts across the filament terminals at the socket. Most satisfactory operating performance of the tube will be obtained at the rated filament voltage.

APPLICATION

Operating conditions are given under CHARACTERISTICS for the use of this tube in the power output stage. With a d-c filament supply, the grid and the plate return should be made to the negative filament terminal.

For a-c filament supply, the plate and the grid return should be brought either to a mid-tapped resistor of 20 to 40 ohms across the filament winding, or to a mid-tap of the filament winding. To prevent overloading and distortion, the recommended negative grid bias should always be used.

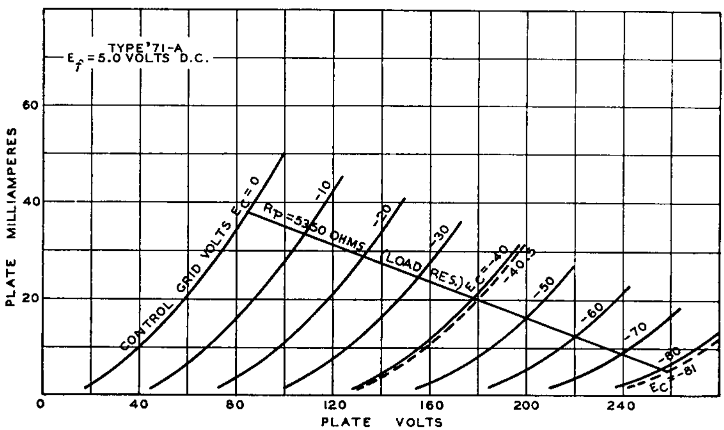
Grid bias for the '71-A may be obtained from a C-battery or by means of the voltage drop in a resistor connected in the negative plate return lead. This second method is known as the self-biasing method, since the plate current determines the

drop. It is not, however, generally applicable to battery operated receivers. The proper value of this resistor for a plate voltage of 180 volts is 2150 ohms; for a plate voltage of 135 volts, 1700 ohms; and for 90 volts, 1600 ohms.

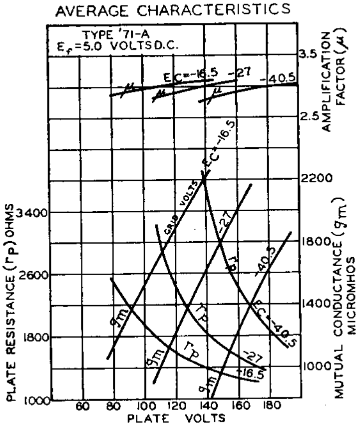
If more output is desired than can be obtained from a single '71, two '71's may be operated either in parallel or push-pull connection. See page 13. When two '71's are operated together in the same amplifier stage, the values of the self-biasing resistors will be approximately one-half the values given above for a single tube.

An **output device** should be used to transfer power to the winding of the reproducing unit.

AVERAGE PLATE CHARACTERISTICS



AVERAGE CHARACTERISTICS



AVERAGE CHARACTERISTICS

